

U.S. Patent Application Serial No. 10/796,691
RCE, Fourth Amendment and Response to Final Office Action
Page 2

RECEIVED
CENTRAL FAX CENTER

MAR 27 2007

AMENDMENTS OF CLAIMS

The listing of claims will replace all prior versions, and listings, of claims in the application:

1-75. (Cancelled)

76. (Currently Amended) A composition comprising substantially unmodified low density lipoprotein particles and a particle derivative of high density lipoprotein particles obtained from a biological fluid, comprising lipids, apolipoprotein A-1 and at least one of apolipoprotein C-III, apolipoprotein D or apolipoprotein E,

wherein the lipids include phospholipids,

wherein ~~the particle derivative of the high density lipoprotein particles from the biological fluid~~ composition is formed by exposing ~~the high density lipoprotein particles from a biological fluid~~ comprising low density lipoprotein particles and high density lipoprotein particles to a lipid removing agent,

wherein the substantially unmodified low density lipoprotein particles are substantially unmodified as compared to the low density lipoprotein particles in the biological fluid prior to exposure of the biological fluid to the lipid removing agent.

and wherein the particle derivative of the high density lipoprotein particles ~~from the biological fluid~~ has a lower content of at least one of the phospholipids or cholesterol than the high density lipoprotein particles in the biological fluid prior to exposure of the biological fluid to the lipid removing agent.

77. (Currently Amended) A composition comprising substantially unmodified low density lipoprotein particles and a particle derivative of high density lipoprotein particles obtained from a biological fluid, comprising lipids and apolipoprotein A-1,

wherein the lipids include phospholipids and at least one of triglycerides or fatty acids,

U.S. Patent Application Serial No. 10/796,691
RCE, Fourth Amendment and Response to Final Office Action
Page 3

~~wherein the particle derivative of the high density lipoprotein particles obtained from the biological fluid~~ composition ~~is formed by exposing the high density lipoprotein particles from the a biological fluid comprising low density lipoprotein particles and high density lipoprotein particles to a lipid removing agent,~~

wherein the substantially unmodified low density lipoprotein particles are substantially unmodified as compared to the low density lipoprotein particles in the biological fluid prior to exposure of the biological fluid to the lipid removing agent.

and wherein the particle derivative of the high density lipoprotein particles ~~from the biological fluid~~ has a lower content of at least one of the phospholipids or cholesterol than the high density lipoprotein particles in the biological fluid prior to exposure of the biological fluid to the lipid removing agent.

78-80. (Cancelled)

81. (Currently Amended) The composition ~~particle derivative of the high density lipoprotein particles~~ of Claim 76, wherein the lipids include at least one of triglycerides or fatty acids.

82. (Currently Amended) The composition ~~particle derivative of the high density lipoprotein particles~~ of Claim 77, wherein the particle derivative of the high density lipoprotein particles further comprising comprises at least one of apolipoprotein C-III, apolipoprotein D or apolipoprotein E.

83. (Currently Amended) The composition ~~particle derivative of the high density lipoprotein particles~~ of Claim 76, wherein the particle derivative of the high density lipoprotein particles has a lower content of cholesterol than the high density lipoprotein particles in the biological fluid prior to exposure of the biological fluid to the lipid removing agent.

84. (Currently Amended) The composition ~~particle derivative of the high density lipoprotein particles~~ of Claim 76, wherein the lipid removing agent is an ether or a combination of an alcohol and an ether.

US2000 9730699.3

U.S. Patent Application Serial No. 10/796,691
RCE, Fourth Amendment and Response to Final Office Action
Page 4

85. (Currently Amended) The composition ~~particle derivative of the high density lipoprotein particles~~ of Claim [[76]] 84, wherein the ether is di-isopropyl ether.

86. (Currently Amended) The composition ~~particle derivative of the high density lipoprotein particles~~ of Claim [[76]] 84, wherein the alcohol is n-butanol.

87. (Currently Amended) The composition ~~particle derivative of the high density lipoprotein particles~~ of Claim 76, wherein the lipid removing agent is a mixture of sevoflurane and n-butanol.

88. (Currently Amended) The composition ~~particle derivative of the high density lipoprotein particles~~ of Claim 76, wherein the exposure is achieved by an exposure process comprising the steps of:

- a. mixing the lipid removing agent with the biological fluid comprising a mixture of the high density lipoprotein particles and the low density lipoprotein particles, to create a mixture of comprising the particle derivative, the substantially unmodified low density lipoprotein particles, removed lipids, and the lipid removing agent, and the low density lipoprotein particles;
- b. separating the lipid removing agent and the removed lipids from the mixture of ~~the particle derivative, the lipids, the lipid removing agent, and low density lipoprotein particles~~; and,
- c. collecting the composition ~~particle derivative and low density lipoprotein particles~~.

89. (Currently Amended) The composition ~~particle derivative of the high density lipoprotein particles~~ of Claim 88, wherein the lipid removing agent comprises a mixture of sevoflurane and n-butanol.

90. (Currently Amended) The composition ~~particle derivative of the high density lipoprotein particles~~ of Claim 88, wherein the mixing is performed using a static mixer.

U.S. Patent Application Serial No. 10/796,691
RCE, Fourth Amendment and Response to Final Office Action
Page 5

91. (Currently Amended) The composition ~~particle derivative of the high density lipoprotein particles~~ of Claim 88, wherein the separation is performed using a charcoal column.

92. (Currently Amended) The composition ~~particle derivative of the high density lipoprotein particles~~ of the high density lipoprotein particles of Claim [[88]] 76, wherein the biological fluid comprising low density lipoprotein particles and high density lipoprotein particles is obtained by a process and further comprising the steps of:

- a. connecting a patient to a device for withdrawing blood;
- b. withdrawing the blood containing blood cells from the patient;
- c. separating the blood cells from the blood to yield the biological fluid comprising a fraction wherein the fraction contains a the mixture of the high density lipoprotein particles and the low density lipoprotein particles.

93. (Currently Amended) The composition ~~particle derivative of the high density lipoprotein particles~~ of Claim 77, wherein the particle derivative of the high density lipoprotein particles has a lower content of cholesterol than the high density lipoprotein particles in the biological fluid prior to exposure of the biological fluid to the lipid removing agent.

94. (Currently Amended) The composition ~~particle derivative of the high density lipoprotein particles~~ of Claim 77, wherein the lipid removing agent is an ether or a combination of an alcohol and an ether.

95. (Currently Amended) The composition ~~particle derivative of the high density lipoprotein particles~~ of Claim [[77]] 94, wherein the ether is di-isopropyl ether.

96. (Currently Amended) The composition ~~particle derivative of the high density lipoprotein particles~~ of Claim [[77]] 94, wherein the alcohol is n-butanol.

97. (Currently Amended) The composition ~~particle derivative of the high density lipoprotein particles~~ of Claim 77, wherein the lipid removing agent is a mixture of sevoflurane and n-butanol.

U.S. Patent Application Serial No. 10/796,691
RCE, Fourth Amendment and Response to Final Office Action
Page 6

98. (Currently Amended) The composition ~~particle derivative of the high density lipoprotein particles~~ of Claim 77, wherein the exposure is achieved by an exposure process comprising the steps of:

- a. mixing the lipid removing agent with the biological fluid comprising a mixture of the high density lipoprotein particles and the low density lipoprotein particles, to create a mixture of comprising the particle derivative, the substantially unmodified low density lipoprotein particles, removed lipids, and the lipid removing agent, and the low density lipoprotein particles;
- b. separating the lipid removing agent and the removed lipids from the mixture of ~~the particle derivative, the lipids, the lipid removing agent, and the low density lipoprotein particles;~~ and,
- c. collecting the composition ~~particle derivative and the low density lipoprotein particles.~~

99. (Currently Amended) The composition ~~particle derivative of the high density lipoprotein particles~~ of Claim 98, wherein the lipid removing agent comprises a mixture of sevoflurane and n-butanol.

100. (Currently Amended) The composition ~~particle derivative of the high density lipoprotein particles~~ of Claim 98, wherein the mixing is performed using a static mixer.

101. (Currently Amended) The composition ~~particle derivative of the high density lipoprotein particles~~ of Claim 98, wherein the separation of the lipid removing agent and the removed lipids is performed using a charcoal column.

102. (Currently Amended) The composition ~~particle derivative of the high density lipoprotein particles~~ of Claim ~~[[98]]~~ 77, wherein the biological fluid comprising low density biological particles and high density biological particles is obtained by an exposure process and further comprising the steps of:

- a. connecting a patient to a device for withdrawing blood;
- b. withdrawing the blood containing blood cells from the patient;

U.S. Patent Application Serial No. 10/796,691
RCE, Fourth Amendment and Response to Final Office Action
Page 7

- c. separating the blood cells from the blood to yield a the biological fluid comprising fraction wherein the fraction contains a the mixture of the high density lipoprotein particles and the low density lipoprotein particles.

103. (Currently Amended) A composition comprising a particle derivative of at least one form of high density lipoprotein particle comprising lipids, apolipoprotein A-1 and at least one of apolipoprotein C-III, apolipoprotein D or apolipoprotein E,

wherein the lipids include phospholipids,

wherein the composition particle derivative is formed by separating low density lipoprotein particles from a biological fluid comprising a mixture of the high density lipoprotein particles and the low density lipoprotein particles and, subsequently to the separation, exposing the mixture biological fluid to a lipid removing agent, and

wherein the particle derivative has a lower content of at least one of the phospholipids or cholesterol than the high density lipoprotein particles in the biological fluid prior to exposure of the biological fluid to the lipid removing agent.

104. (Currently Amended) The particle derivative composition of Claim 103, wherein the particle derivative has a lower content of cholesterol than the high density lipoprotein particles in the biological fluid prior to exposure of the biological fluid to the lipid removing agent.

105. (Currently Amended) The particle derivative composition of Claim 103, wherein the lipid removing agent is an ether or a combination of an alcohol and an ether.

106. (Currently Amended) The particle derivative composition of Claim 105, wherein the ether is di-isopropyl ether.

107. (Currently Amended) The particle derivative composition of Claim 105, wherein the alcohol is n-butanol.

U.S. Patent Application Serial No. 10/796,691
RCE, Fourth Amendment and Response to Final Office Action
Page 8

108. (Currently Amended) The ~~particle-derivative~~ composition of Claim 103, wherein the lipid removing agent is a mixture of sevoflurane and n-butanol.

109. (Currently Amended) The ~~particle-derivative~~ composition of Claim 103, wherein the exposure is achieved by an exposure process comprising the steps of:

- a. mixing the lipid removing agent with the biological fluid comprising the high density lipoprotein particles to create a mixture ~~of~~ comprising the particle derivative, removed lipids, and the lipid removing agent;
- b. separating the lipid removing agent and the removed lipids from the mixture ~~of the particle derivative, the lipids, and the lipid removing agent~~; and,
- c. collecting the ~~particle-derivative~~ composition.

110. (Currently Amended) The ~~particle-derivative~~ composition of Claim 109, wherein the lipid removing agent comprises a mixture of sevoflurane and n-butanol.

111. (Currently Amended) The ~~particle-derivative~~ composition of Claim ~~[[109]]~~ 103, wherein the separation of the low density lipoprotein particles is performed using an apheresis device.

112. (Currently Amended) The ~~particle-derivative~~ composition of Claim 109, wherein the mixing is performed using a static mixer.

113. (Currently Amended) The ~~particle-derivative~~ composition of Claim 109, wherein the separation of the lipid removing agent and the removed lipids is performed using a charcoal column.

114. (Currently Amended) The ~~particle-derivative~~ composition of Claim ~~[[109]]~~ 103, wherein the biological fluid comprising low density biological particles and high density biological particles is obtained by a process further comprising the steps of:

- a. connecting a patient to a device for withdrawing blood;
- b. withdrawing the blood containing blood cells from the patient; and,

U.S. Patent Application Serial No. 10/796,691
RCE, Fourth Amendment and Response to Final Office Action
Page 9

- c. separating the blood cells from the blood to yield [[a]] the biological fluid comprising fraction wherein the fraction contains a mixture of the high density lipoprotein particles and the low density lipoprotein particles.

115. (Currently Amended) The ~~particle-derivative~~ composition of Claim 103, wherein the lipids include at least one of triglycerides or fatty acids.

116. (Currently Amended) A composition comprising a particle derivative of at least one form of high density lipoprotein particle comprising lipids and apolipoprotein A-1,

wherein the lipids include phospholipids and at least one of triglycerides or fatty acids,

wherein the composition ~~particle-derivative~~ is formed by separating low density lipoprotein particles from a biological fluid comprising a mixture of the high density lipoprotein particles and the low density lipoprotein particles and, subsequently to the separation, exposing the mixture biological fluid to a lipid removing agent,

wherein the particle derivative has a lower content of at least one of the phospholipids or cholesterol than the high density lipoprotein particles prior to exposure of the biological fluid to the lipid removing agent.

117. (Currently Amended) The composition ~~particle-derivative~~ of Claim 116, wherein the particle derivative has a lower content of cholesterol than the high density lipoprotein particles prior to exposure of the biological fluid to the lipid removing agent.

118. (Currently Amended) The composition ~~particle-derivative~~ of Claim 116, wherein the lipid removing agent is an ether or a combination of an alcohol and an ether.

119. (Currently Amended) The composition ~~particle-derivative~~ of Claim 118, wherein the ether is di-isopropyl ether.

120. (Currently Amended) The composition ~~particle-derivative~~ of Claim 118, wherein the alcohol is n-butanol.

US2000 9730699.3

U.S. Patent Application Serial No. 10/796,691
RCE, Fourth Amendment and Response to Final Office Action
Page 10

121. (Currently Amended) The composition ~~particle-derivative~~ of Claim 116, wherein the lipid removing agent is a mixture of sevoflurane and n-butanol.

122. (Currently Amended) The composition ~~particle-derivative~~ of Claim 116, wherein the exposure is achieved by an exposure process comprising the steps of:

- a. mixing the lipid removing agent with the biological fluid comprising high density lipoprotein particles to create a mixture ~~[[of]]~~ comprising the particle derivative, removed lipids, and the lipid removing agent;
- b. separating the lipid removing agent and the removed lipids from the mixture ~~of the particle derivative, the lipids, and the lipid removing agent~~; and,
- c. collecting the composition ~~particle-derivative~~.

123. (Currently Amended) The composition ~~particle-derivative~~ of Claim 122, wherein the lipid removing agent comprises a mixture of sevoflurane and n-butanol.

124. (Currently Amended) The composition ~~particle-derivative~~ of Claim ~~[[122]]~~ 116, wherein the separation of the low density lipoprotein particles is performed using an apheresis device.

125. (Currently Amended) The composition ~~particle-derivative~~ of Claim 122, wherein the mixing is performed using a static mixer.

126. (Currently Amended) The composition ~~particle-derivative~~ of Claim 122, wherein the separation of the lipid removing agent and the removed lipids is performed using a charcoal column.

127. (Currently Amended) The composition ~~particle-derivative~~ of Claim ~~[[122]]~~ 116, wherein the biological fluid comprising the mixture of the high density lipoprotein particles and the low density lipoprotein particles further is obtained by a process comprising the steps of:

- a. connecting a patient to a device for withdrawing blood;
- b. withdrawing the blood containing blood cells from the patient; and,

US2000 9730699.3

U.S. Patent Application Serial No. 10/796,691
RCE, Fourth Amendment and Response to Final Office Action
Page 11

- c. separating the blood cells from the blood to yield ~~[[a]]~~ the biological fluid comprising fraction wherein the fraction contains a mixture of the high density lipoprotein particles and the low density lipoprotein particles.

128. (Currently Amended) The composition ~~particle derivative~~ of Claim 116, wherein the particle derivative of the high density lipoprotein particles further ~~comprising~~ comprises at least one of apolipoprotein C-III, apolipoprotein D or apolipoprotein E.